



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,414	12/14/2001	Philip P. Schaefer	VOR-101	9753

28970 7590 11/30/2004

SHAW PITTMAN  
IP GROUP  
1650 TYSONS BOULEVARD  
SUITE 1300  
MCLEAN, VA 22102

EXAMINER

DANG, HUNG Q

ART UNIT	PAPER NUMBER
----------	--------------

2635

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/014,414

Applicant(s)

P. SCHAEFER

Examiner

Hung Q Dang

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3,4,11-14 and 16-20 is/are rejected.  
7) ☒ Claim(s) 2,5-10,15 and 21 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1, 3, 4, 11-14, 17, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt U.S. Patent 5,467,011.

**Regarding claims 1, 3 and 4,** Hunt teaches a system for transmitting signals through a conducting medium comprising:

A transmitter station (Figure 1, unit 10), the transmitter station comprising:

A transmitter (Figure 1, unit 10), and one or more transmitter conductors (Figure 1, units 12a, b or c) coupled to the transmitter, wherein the transmitter causes a signal to be transmitted to be coupled to the transmitter conductors to cause a current to flow in the imperfectly-conducting medium, thereby creating an electric field (inherent) corresponding to the signal to be transmitted (column 3 line 63 to column 4 line 14);

A receiver station, the receiver station comprising:

A receiver (Figure 1, unit 20); and

One or more receiver conductors (Figure 1, unit 22) coupled to the receiver through one or more leads, wherein the receiver conductors

receive the signal to be transmitted by sensing the electric field (column 3 line 63 to column 4 line 14); and

Output means (Figure 2, unit 38) for outputting the received signal.

**Regarding claim 11**, the transmitter and receiver conductors disclosed by Hunt are also self-contained (Figure 1).

**Claims 12, 14, 17, 18 and 20** are rejected for the same reasons as claim 1.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt U.S. Patent 5,467,011 in view of MacLeod U.S. Patent 4,207,568.

**Regarding claim 2**, Hunt does not teach including said transmitter and said receiver in a single-unit transceiver.

MacLeod also teaches a communicating system, which includes a transmitter and a receiver in a single-unit transceiver (Figure 1, unit 26) for transmitting and receiving signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide said transmitter and said receiver in a single-unit transceiver for transmitting and receiving information.

**Regarding claim 13**, neither the specification nor the claim provides the purpose of determining the direction of the transmitter. According to the last paragraph of page 10 of the specification, then only the orientation of the transmitting/receiving conductors affects the performance of the signal transmission. Therefore, determining the direction of the transmitter is a nonfunctional step and is considered as a choice in design.

5. Claims 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt U.S. Patent 5,467,011 in view of Haumann et al. U.S. Patent 6,285,742.

**Regarding claims 16 and 19**, as mentioned above, Hunt teaches a system as claimed in claims 12 and 18, except said system further comprises means for activating a medical device. Hunt also discloses that said system can be beneficial for other applications such as remote meter reading, remote controlling, phase tracing test equipment etc. (column 3, lines 40-47).

Haumann et al. discloses a system for remote controlling a medical device (column 2, lines 22-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to equip the system disclosed by Hunt with a medical device, as evidenced by Haumann et al., so that said medical device can be remotely controlled by the system disclosed by Hunt.

***Allowable Subject Matter***

6. Claims 5-10, 15 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Regarding claim 5**, the prior arts of record fail to teach or disclose the system as claimed in claim 1, wherein the system is used to determine the property of the imperfectly conducting medium.

**Regarding claim 6**, the prior arts of record fail to teach or disclose the system as claimed in claim 2, wherein the transceiver is submerged in the imperfectly-conducting medium and changes in the electric field are analyzed to determine the presence of an object in the imperfectly-conducting medium.

**Regarding claims 7 and 9**, the prior arts of record fail to teach or disclose the system as claimed in claim 1, wherein the receiver station further comprises a combiner for selecting signals from two of the conductors for input to the receiver (as indicated in the first paragraph of page 15 of the specification, then the system would have greatest response in a direction collinear with the selected conductor).

**Regarding claims 15 and 21**, the prior arts of record fail to teach or disclose the system as claimed in claim 12, which further comprises the step of determining a property of the imperfectly-conducting medium; and determining an object in the imperfectly-conducting media, respectively.

### Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q Dang whose telephone number is (571) 272-3069. The examiner can normally be reached on 9:30AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (571) 272-3068. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HD

MICHAEL HORABIK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

